

**WHAT IS CLAIMED IS:**

- 1 1. A method for the automatic configuration of a bi-directional Internet
- 2 Protocol (IP) communication device, comprising:
  - 3 broadcasting a request for basic configuration details, where
  - 4 said request contains a unique bi-directional IP communication device
  - 5 identifier associated with a unique user;
  - 6 receiving said basic configuration details from a server, where
  - 7 said basic configuration details are assigned to said unique user based
  - 8 on said unique bi-directional IP communication device identifier; and
  - 9 configuring said bi-directional IP communication device with
  - 10 said basic configuration details.
- 1 2. The method of claim 1, wherein said broadcasting further comprises
- 2 broadcasting said request for basic configuration details, including an IP
- 3 address, to a Dynamic Host Configuration Protocol (DHCP) server, where
- 4 said bi-directional IP communication device is a Digital Subscriber Line (DSL)
- 5 gateway.
- 1 3. The method of claim 2, wherein said receiving comprises obtaining an
- 2 IP address from said DHCP server.
- 1 4. The method of claim 1, further comprising transmitting a configuration
- 2 request for additional configuration details.
- 1 5. The method of claim 4, further comprising receiving said additional
- 2 configuration details specific to said unique user.
- 1 6. The method of claim 5, further comprising configuring said bi-
- 2 directional IP communication device with said additional configuration details.
- 1 7. The method of claim 1, further comprising, before said broadcasting
- 2 step, the steps of:

3 connecting said bi-directional IP communication device to an analog  
4 telephone line; and  
5 powering said bi-directional IP communication device on.

1 8. The method of claim 1, further comprising, before said broadcasting  
2 step, the step of automatically detecting a DSL communication circuit.

1 9. The method of claim 1, further comprising, before said broadcasting  
2 step, the step of automatically determining Permanent Virtual Circuit (PVC)  
3 details for communications between said bi-directional IP communication  
4 device and a communications network.

1 10. The method of claim 9, wherein said determining comprises the step of  
2 ascertaining a VPI/VCI (Virtual Path Identifier/Virtual Channel Identifier) pair  
3 for said communications.

1 11. The method of claim 1, wherein said broadcasting comprises  
2 broadcasting a DHCP Discover request.

1 12. The method of claim 1, wherein said receiving comprises acquiring a  
2 DHCP Offer message from a DHCP server.

1 13. The method of claim 1, further comprising, prior to said configuring  
2 step, the steps of:  
3 sending a DHCP Request message to said DHCP server; and  
4 receiving a DHCP acknowledge message from said DHCP  
5 server.

1 14. The method of claim 1, wherein said broadcasting and receiving steps  
2 occur automatically without any communication between said bi-directional IP  
3 communication device and a client computer coupled to said bi-directional IP  
4 communication device.

1 15. The method of claim 1, further comprising , prior to said configuring  
2 step, the steps of:  
3                 assigning said unique bi-directional IP communication device  
4                 identifier to said bi-directional IP communication device; and  
5                 associating said unique bi-directional IP communication device  
6                 identifier with said unique user.

1 16. The method of claim 15, further comprising generating a configuration  
2 table listing bi-directional IP communication device identifiers and associated  
3 users.

1 17. A bi-directional IP communication device, comprising:  
2                 a Central Processing Unit (CPU);  
3                 communication circuitry;  
4                 input/output ports; and  
5                 a memory containing:  
6                         a unique bi-directional IP communication device  
7                 identifier;  
8                         instructions for broadcasting a request for basic  
9                 configuration details, where said request contains a unique bi-  
10                 directional IP communication device identifier associated with a  
11                 unique user;  
12                 instructions for receiving said basic configuration details  
13                 from a server, where said basic configuration details is assigned  
14                 to said unique user based on said unique bi-directional IP  
15                 communication device identifier; and  
16                 instructions for configuring said bi-directional IP  
17                 communication device with said basic configuration details.

1 18. The bi-directional IP communication device of claim 17, wherein said  
2                 instructions for broadcasting further comprise instructions for  
3                 broadcasting said request for basic configuration details, including an IP  
4                 address, to a Dynamic Host Configuration Protocol (DHCP) server, where

5 said bi-directional IP communication device is a Digital Subscriber Line (DSL)  
6 gateway.

1 19. A computer program product for use in conjunction with a computer  
2 system for the automatic configuration of a bi-directional Internet Protocol (IP)  
3 communication device, the computer program product comprising a computer  
4 readable storage and a computer program stored therein, the computer  
5 program comprising:

6                 instructions for broadcasting a request for basic  
7 configuration details, where said request contains a unique bi-  
8 directional IP communication device identifier associated with a  
9 unique user;

10                 instructions for receiving said basic configuration details  
11 from a server, where said basic configuration details is assigned  
12 to said unique user based on said unique bi-directional IP  
13 communication device identifier; and

14                 instructions for configuring said bi-directional IP  
15 communication device with said basic configuration details.

1 20. The computer program product of claim 19, wherein said instructions  
2 for broadcasting further comprise instructions for broadcasting said request  
3 for basic configuration details, including an IP address, to a Dynamic Host  
4 Configuration Protocol (DHCP) server, where said bi-directional IP  
5 communication device is a Digital Subscriber Line (DSL) gateway.